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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,024	02/06/2004	Genichi Taguchi	ASI-10003/03	7722
25006	7590	10/03/2005	EXAMINER	
GIFFORD, KRASS, GROH, SPRINKLE & CITKOWSKI, P.C			LAU, TUNG S	
PO BOX 7021			ART UNIT	
TROY, MI 48007-7021			PAPER NUMBER	
			2863	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/774,024

Applicant(s)

TAGUCHI ET AL.

Examiner

Tung S. Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-17 is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 5 is/are rejected.
- 7) ☒ Claim(s) 3 and 6-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

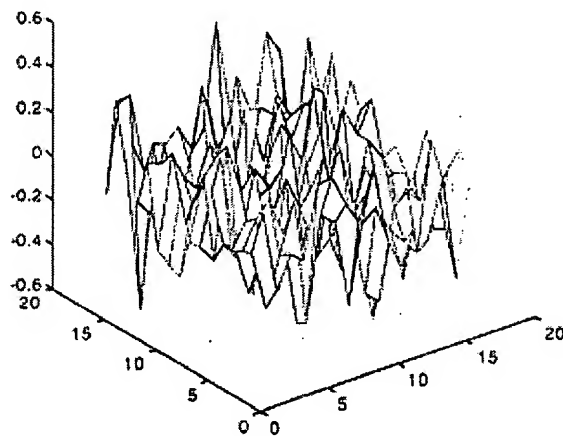
Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Cao et al. (U.S. Patent 6,463,341).

Regarding claim 1:

Cao discloses a process for multivariate data analysis comprising the steps of: using a computer in conjunction with a Gram-schmidt orthogonalization process to determine normal Gram-schmidt vectors corresponding to observable normal values of a plurality of normal datum where at least one of said plurality of normal datum has non-zero standard deviation (Col. 16-17, Lines 65-50); computing abnormal Gram-schmidt vectors corresponding to observable abnormal values of a plurality of abnormal datum; computing a signal to noise ratio for said normal Gram-schmidt vectors and said abnormal Gram-schmidt vectors to obtain abnormal predicted values; and using said abnormal predicted values for a future prediction (Col. 7-9, Lines 30-40, Col. 16-17, Lines 65-50, fig. 10, 11).

Art Unit: 2863

Regarding claim 2, Cao discloses computer dynamic signal to noise ratio for normal Gram-Schmidt vectors and for abnormal Gram-Schmidt vectors (Col. 2-4, Lines 33-19, Col. 7-9, Lines 30-40, fig. 10); Regarding claim 4, Cao discloses comparing abnormal predicted to observable abnormal of datum (Col. 2-4, Lines 33-19); Regarding claim 5, Cao discloses value are assign (Col. 2-4, Lines 33-19).

**FIG. 10*****Allowable Subject Matter***

2. Claims 11-17 are allowed.

***Reasons for Allowance***

3. The following is an examiner's statement of reasons for allowance:

Independent claim 11 contains allowable subject matter. None of the prior art of record shows or fairly suggests the claimed invention.

Regarding claim 11:

Art Unit: 2863

The primary reason for the allowance of claim 1 is the inclusion of the process for multivariate analysis including computer to calculate Gram-Schmidt orthogonal vectors satisfying the equation calculating a Mahalanobis distance satisfying the equation

$$MD_j = (1/k) [(u_{1j}^2/s_1^2) + (u_{2j}^2/s_2^2) + \dots + (u_{kj}^2/s_k^2)]$$

where j is an integer from 1...n.

It is these features found in the claim, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes this claim allowable over the prior art.

Claims 12-17 are allowed due to their dependency on claim 11.

Claims 3, 6, 7, 8, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach regarding to claim 3:

Schmidt vectors,  $V_e$  is

$$\left( \sum_{i=1}^t U_{ij}^2 - (1/r) \left[ \sum_{i=1}^t M_i U_{ij} \right]^2 \right) / (t-1)$$

where i is an integer between 1 and t, and j is an integer between 1 and k.

Art Unit: 2863

Regarding to claim 6, variable related to medical diagnosis; Regarding to claim 7, variable related to quality of a manufactured product; Regarding to claim 8, variable related to financial market; Regarding to claim 9, variable related to voice recognition; Regarding to claim 10, variable related to TV picture recognition.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Response to Arguments***

4. Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection. However, applicant's arguments filed 09/15/2005 have been fully considered but they are not persuasive.

#### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 571-272-2274. The examiner can normally be reached on M-F 9-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2863

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL

  
MICHAEL NGHIEM  
PRIMARY EXAMINER